# 18.5/21.5-INCH VALUE TFT-LCD MONITOR

**USER MANUAL**

Please read this manual thoroughly before use, and keep it handy for future reference.

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This Monitor was
Manufactured by ISO 9001
Certified Factory

# Important Safety Instruction

1. Read these instructions.
2. Keep these Instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers,stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug.
   Apolarized plug has two blades with one wider than the other.
   Agrounding type plug has two blades and a third grounding prong.
   The wide blade or the third prong are provided for your safety.
   If the provided plug does not fit into your outlet, consult an electrician for replacement of the bsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use attachment/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus the apparatus has been exposed to rain or moisture does not operate normally or has been dropped.

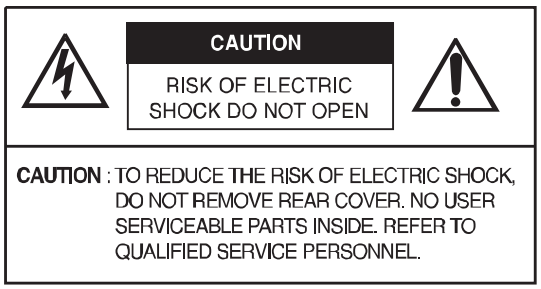
# SAFETY INSTRUCTION

- The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed no the apparatus.

14 Minimum distances(e.g. 10cm) around the apparatus for sufficient ventilation.

“WARNING – To reduce the risk of fire or electric shock, do not expose the apparatus to rain or moisture.”

“The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.”


CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE REAR COVER. NO USER SERVICEABLE PARTS INSIDE. REFER TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated: dangerous voltage with in the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance(servicing) instructions in the literature accompanying the appliance.

# CAUTIONS

## CAUTION

*The power supply cord is used as the main disconnect device, ensure that the socket-outlet is located/installed near the equipment and is easily accessible.*

## ATTENTION

*Le cordon d`alimentation est utillsé comme interrupteur général. La prise de courant doit être située ou installée à proximité du matériel et être facile d`accès*

**CAUTION TO SERVICE PERSONNEL**

POWER SUPPLY CORD IS USED AS MAIN POWER DISCONNECT DEVICE IN THIS PRODUCT. UNPLUG THIS PRODUCT FROM THE WALL OUTLET BEFORE REMOVING THE BACK COVER AND SERVICING

**EMISSION CHARACTERISTICS TESTED BY SEMKO**

THIS PRODUCT HAS BEEN TESTED AND HAS SHOWN COMPLIANCE WITH THE NATIONAL SPECIFICATIONS SUCH AS SWEDISH MPR 1990.10.(MPR II)

### ▶ NEVER REMOVE THE BACK COVER

Removal of the back cover should be carried out only by qualified personnel.

### ▶ DO NOT USE IN HOSTILE ENVIRONMENTS

To prevent shock or fire hazard, do not expose the unit to rain or moisture.

This unit is designed to be used in the office or home. Do not subject the unit to vibrations, dust of corrosive gases.

### ▶ KEEP IN A WELL VENTILATED PLACE

Ventilation holes are provided on the cabinet to prevent the temperature from rising.

Do not cover the unit or place anything on the top of unit.

### ▶ AVOID HEAT

Avoid placing the unit in direct sunshine or near a heating appliance.

### ▶ TO ELIMINATE EYE FATIGUE

Do not use the unit against a bright back ground and where sunlight or other light sources will shine directly on the monitor.

### ▶ BE CAREFUL OF HEAVY OBJECT

Neither the monitor itself nor any other heavy object should rest on the power cord.

Damage to a power cord can cause fire or electrical shock.

# FCC RF INTERFERENCE STATEMENT

**NOTE**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio, TV technician for help.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the users authority to operate such equipment.

**▶ DOC COMPLIANCE NOTICE**

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the radio interference regulation of Canadian Department of communications.

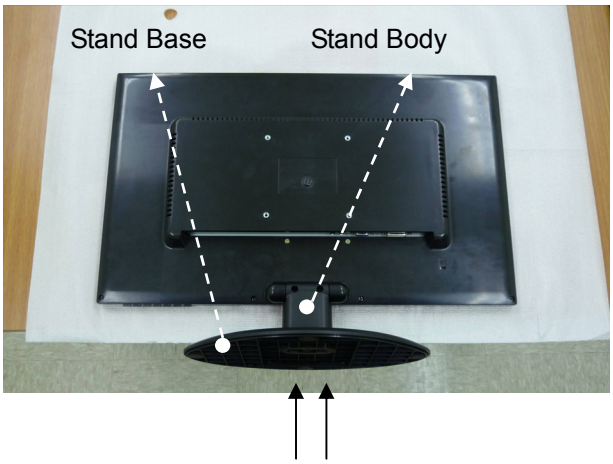
# INSTALLATION

**Before setting up the monitor, ensure that the power to the monitor and other attached devices are turned off.**

## ※ Notice: Stand & screws are optional

## A. Connecting the stand

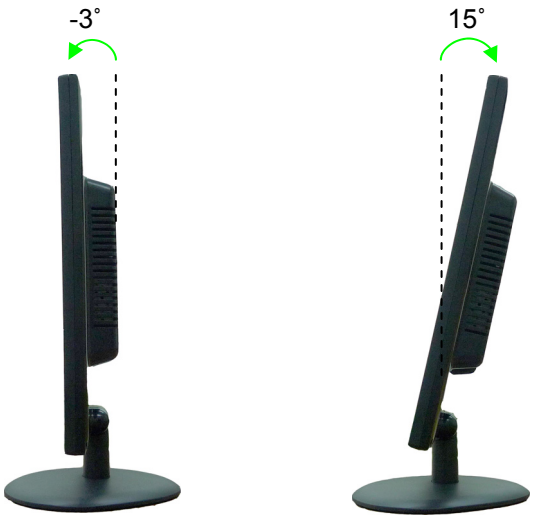
1. Place the monitor with its front facing downward on a soft cloth.
2. Assemble the Stand Base into the Stand Body in the correct direction using the included screws in the accessory box.




3. Once assembled take the monitor up carefully and face the front side.

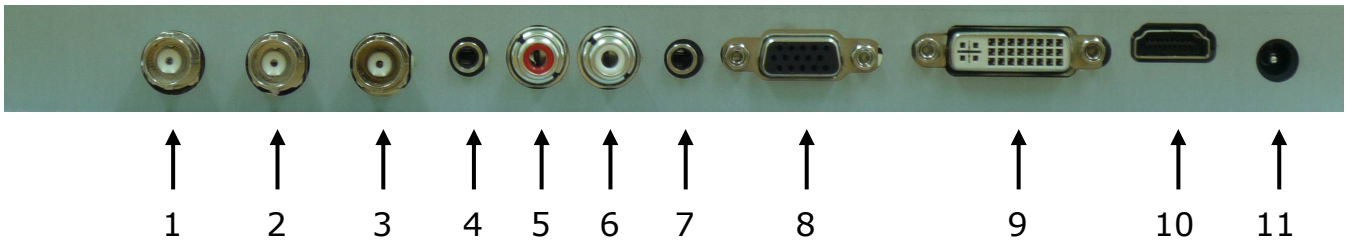
## B. Positioning your display

1. Adjust the position of the panel in various ways for maximum comfort. (Tilt Range: -3°~15°)



# CONNECTING WITH EXTERNAL EQUIPMENT

## A. Rear Connection




1. AV2 IN.
2. AV1 OUT.
3. AV1 IN.
4. TRIGGER IN.
5 & 6. AUDIO R & L (AV1 & AV2).
7. PC STEREO IN (VGA & DVI).
8. VGA.
9. DVI.
10. HDMI.
11. DC 12V.

# REMOTE FUNCTIONS

## B. Remote Controller(Optional)

**1. POWER( )**
Turns the power ON or OFF. There will be a few seconds delay before the display appears.
**2. SOURCE**
Selects an input source.
**3. AUTO**
Auto geometry adjustment in the RGB-PC source.
**4. HOLD**
Stops the Trigger & Auto switching functions.
**5. MUTE**
Mutes the sound.
**6. MENU**
Activates and exits the On Screen Display.
**7. EXIT**
Exits the On Screen Display.
**8. VOL(◀ & ▶)**
Increases or decreases the level of audio volume.
**9. UP/DOWN**
Moves upwards or downwards in the OSD menu.
**10. ENTER**
Enters an OSD submenu or accepts your selection.
**11. INFO**
Displays the information about input source.
**12. STILL**
Pauses the picture.
**13. PIP (Picture In Picture)**
Activates the PIP mode.
**14. P.INPUT**
Changes the source of sub-picture in the PIP mode.
**15. P.POS**
Changes the position of sub-picture in the PIP mode.
**16. P.SIZE**
Changes the sizes of sub and main pictures in the PIP mode.
**17. SWAP**
Alternates between sub and main pictures in the PIP mode.
**18. ARC (Aspect Ratio Control)**
Selects a screen ratio.
**19. APC (Auto Picture Control)**
Selects a picture mode.
**20. ACC (Auto Color Control)**
Selects a color mode.
**21. S.SET**
Selects the source of sound between main and sub pictures in the PIP mode.
**22. PC**
Selects PC mode(PC, DVI & HDMI).
**23. AV**
Selects AV mode(AV1 & AV2).
**24. COMP**
Selects Component mode(Unavailable).

# CONTROLS AND FUNCTIONS

## C. Bottom Key Control

**1. SOURCE/⏎**

Selects an input source.

Enters a submenu or accepts your selection in the OSD menu.

**2. MENU**

Activates or exits the OSD.

Moves previous menu or status in the OSD.

**3 & 4. AUTO/▼ & ▲**

Moves another option in the OSD.

The **AUTO/▼** button is auto adjustment function in the VGA input.

The up(▲) button is HOLD function and stop the Trigger & Auto switching functions.

**5 & 6. ◄ VOL ►**

Adjust the volume or menu settings.

**7. ⏻/ I**

Turns the power on or off. There will be a few seconds delay before the display appears.

**8. LED**

Turned on: blue color.

Turned off: red color.

**9. IR Sensor**

Remote controller sensor.

# CONTROLS AND FUNCTIONS

## OSD Menu Description

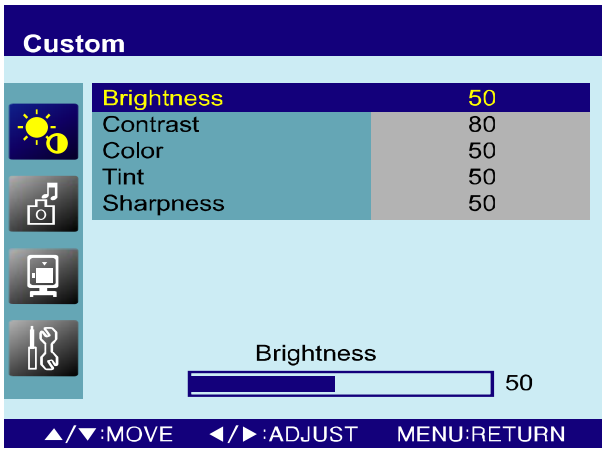
All picture, sound settings and setup for the monitor can be adjusted in the OSD menu.

(**O**n **S**creen **D**isplay)

To adjust the OSD screen:

1. Press the **Menu** button to enter the OSD menu.
2. Press the ▲/▼ buttons to select the desired option. The selected option is highlighted.
3. Press the ▶ button to enter the submenu for adjusting items.
4. Change the value you wish to adjust by using the ▲/▼ buttons.
5. Press the ◀ button to exit the submenu for adjusting items.
6. Press the **Menu** button to exit the OSD menu.

## A. Custom

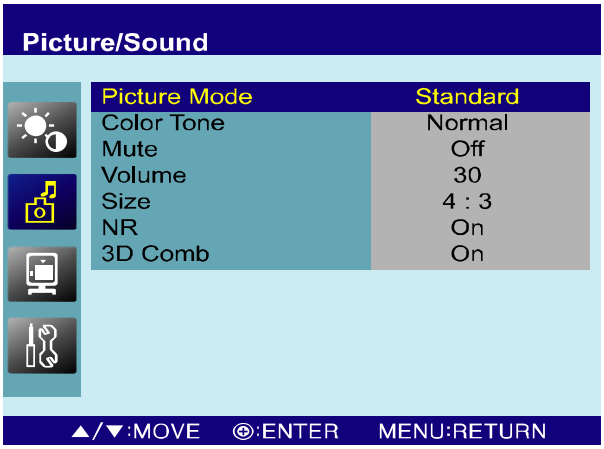


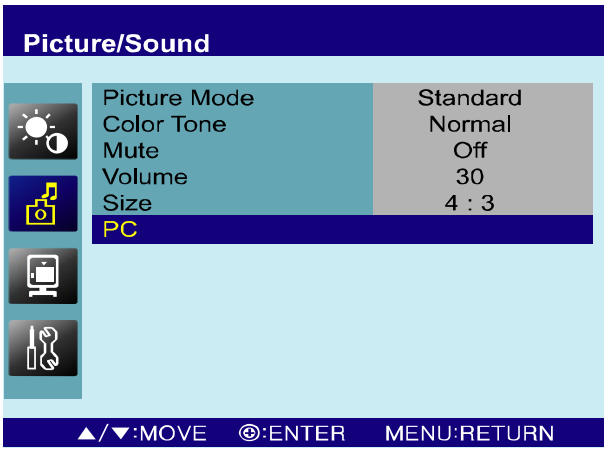

| Option | Function | Value |
|---|---|---|
| Brightness | Adjusts brightness of the screen. | 0 ~ 100 |
| Contrast | Adjusts intensity of the image. | 0 ~ 100 |
| Color [1)] | Adjusts color of the picture. | 0 ~ 100 |
| Tint [2)] | Adjusts tint of the picture. | 0 ~ 100 |
| Sharpness [1)] | Adjusts sharpness of the picture. | 0 ~ 100 |

1) Unavailable in RGB-PC, DVI and HDMI.

2) Unavailable in PAL system.

## B. Picture/Sound




| Option | Function | Value |
|---|---|---|
| Picture Mode | Sets picture mode. | See table below |
| Color Tone | Sets color tone. | See table below |
| Mute | Mutes speaker sound. | Off or On |
| Volume | Adjust the level of audio volume. | 0 ~ 100 |
| Size | Display picture size. | See table below |
| NR [1)] | Reduces noise of the picture. | On or Off |
| 3D Comb [1)] | Activates the 3D comb filter. | On or Off |
| PC [2)] | See table below. | |

1) Unavailable in RGB-PC, DVI and HDMI.

2) Only available in RGB-PC.

**Picture Mode**

| | |
|---|---|
| Custom | Applies user selected values.(Brightness, Contrast, Tint and Sharpness) |
| Dynamic | Provides enhanced contrast and sharpness. |
| Standard | Provides standard contrast and sharpness. |
| Movie | Is recommended for viewing film-based content. |
| Mild | Reduces contras and sharpness. |

**Color Tone**

| | |
|---|---|
| Cool | Gives the white color a bluish tint. |
| Normal | Gives the white color a neutral tint. |
| Warm | Gives the white color a reddish tint. |
| User [1)] | To manually adjust the color tones(Red, Green, and Blue). |

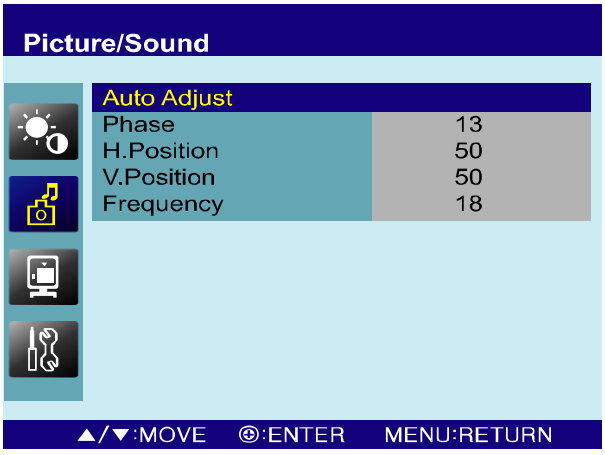
1) Unavailable in AV1 and AV2.

**Size**

| | |
|---|---|
| 4:3 | Sets the image size to 4:3 |
| Panorama [1)] | Sets the image to panorama |
| Zoom1 [1)] | Expands the image size about two times to upward and downward |
| Zoom2 [1)] | Expands the image size about one and half times to upward and downward |
| Wide | Sets the image size to wide |
| Under [1)] | Adjusts the image size to display resolution without overscan |
| 1:1 [1)] | Adjusts the image size to input resolution with overscan |

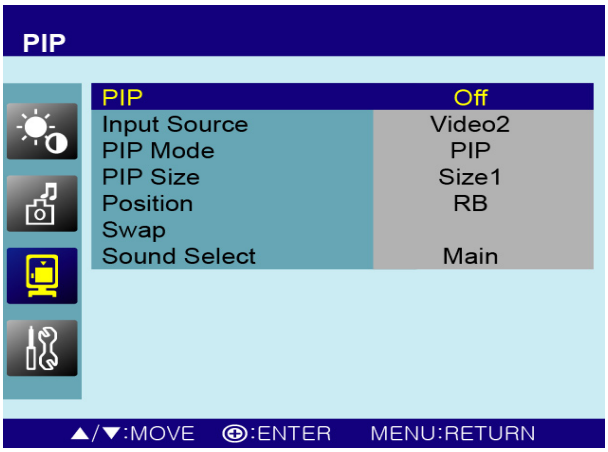
1) Unavailable in RGB-PC, DVI and HDMI.

**PC**




| Option | Function | Value |
|---|---|---|
| Auto Adjust | Auto geometry adjustment. | |
| Phase | Adjusts the number of horizontal picture elements. | 0 ~ 100 |
| H-Position | Adjusts the horizontally picture position. | 0 ~ 100 |
| V-Position | Adjusts the vertically picture position. | 0 ~ 100 |
| Frequency | Adjusts the vertical noise of screen image. | 0 ~ 100 |

## C. PIP



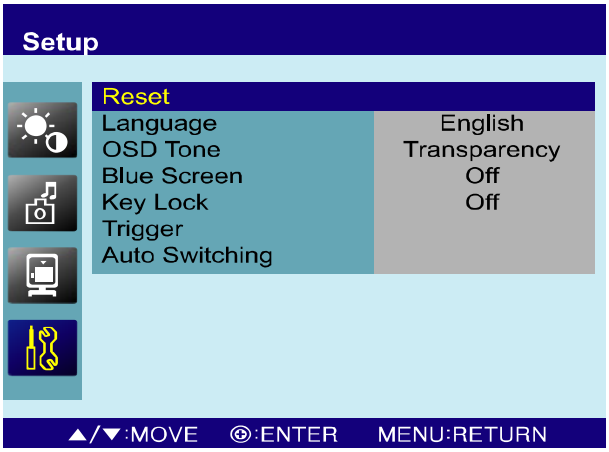

| Option | Function | Value |
|---|---|---|
| PIP | Activates the PIP feature. | Off or On |
| Input Source | Selects the input source for the PIP area. | See table below |
| PIP Mode | Enables 3 screen size.4:3 side by corner, 4:3 side by 4: 3, and full screen side by side. | PIP, PBP1 or PBP2 |
| PIP Size | Selects the size of PIP screen. | Size1, Size2 or Size3 |
| Position | Selects the position of PIP screen. **R**ight of **B**ottom, **L**eft of **B**ottom, **L**eft of **T**op and **R**ight of **T**op. | RB, LB, LT or RT |
| Swap | Alternates between the main and sub picture | |
| Sound Select | Selects the sound source from either the Main or PIP | Main or Sub |

**Input Source**

| | Main | Sub |
|---|---|---|
| Available combination | AV1 or AV2 | AV1 or AV2 |
| | AV1 or AV2 | RGB-PC, DVI or HDMI |
| | RGB-PC, DVI or HDMI | AV1 or AV2 |
| Unavailable combination | RGB-PC, DVI or HDMI | RGB-PC, DVI or HDMI |

# CONTROLS AND FUNCTIONS

## D. Setup




| Option | Function | Value |
|---|---|---|
| Reset | Resets the monitor settings to the factory default. | |
| Language | Sets the language of the OSD menu. | English, French, Deutsch, Italian, Spanish, Portuguese or Nederland |
| OSD Tone | Changes background of monitor menus. (e.g. input source & information) | Transparency or Blue |
| Blue Screen | Displays a blue screen if the monitor receives no signal. | Off or On |
| Key Lock [1)] | Locks all buttons of the monitor. **Note**: Use remote controller to unlock. | Off or On |
| Trigger | See table below | |
| Auto Switching | See table below | |

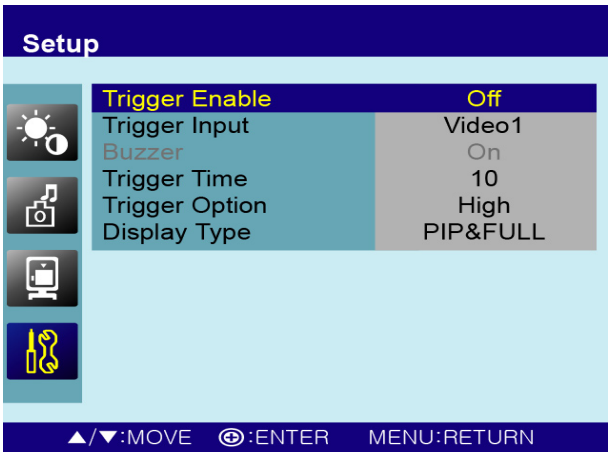
1) How to unlock

① On the front key: Press the SOURCE/SELECT and MENU button at the same time over 3 seconds.

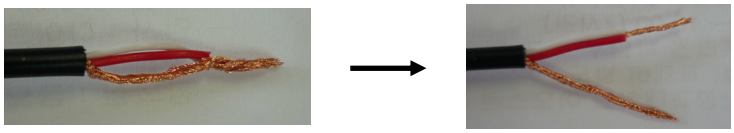
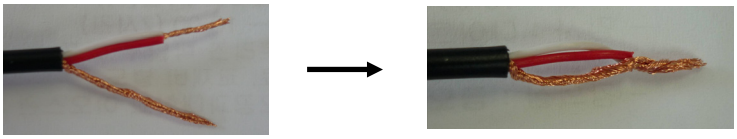
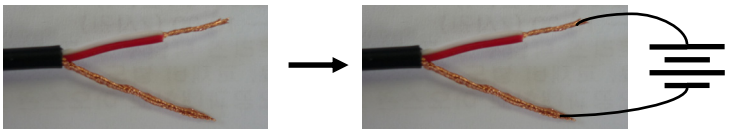
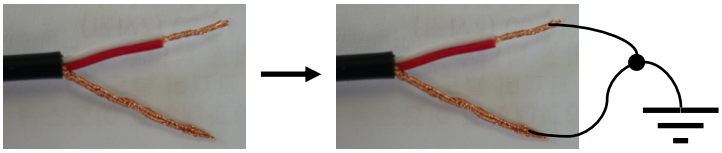
② On the Remote Controller: The Remote Controller operates well because the Key Lock function is only allowed for the front key of this product.

# CONTROLS AND FUNCTIONS

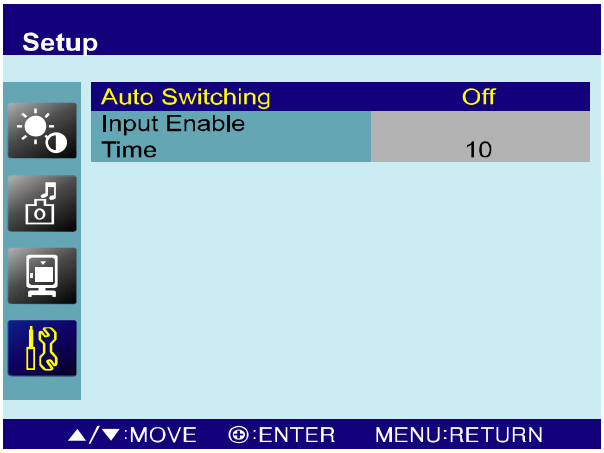
**Trigger**




| Option | Function | Value |
|---|---|---|
| Trigger Enable | Activates the trigger feature. | Off or On |
| Trigger Input | Selects the input source for the Trigger. | AV1, AV2, RGB-PC, DVI or HDMI |
| Buzzer | Inactivated. | |
| Trigger Time | Selects the amount of time, in seconds, that the monitor displays the trigger Input image. | 3 ~ 100 |
| Trigger Option | Selects the type of physical trigger input. | See table below. |
| Display Type | Selects the mode in which the monitor displays the Trigger Input. The monitor takes one of the following actions:<br>- PIP & FULL: Displays the Trigger Input in the PIP of the current video input source.<br>**Note**: The main video source must support the Trigger Input source as a PIP option. See section "**Input Source**" in "**C. PIP**".<br>- FULL: Switches the display to show the Trigger Input in the full screen. | PIP & FULL or FULL |

| | |
|---|---|
| N/C(**N**ormally **C**losed):<br>The Trigger function is activated when the trigger cable is opened. |  |
| N/O(**N**ormally **O**pened):<br>The Trigger function is activated when the trigger cable is closed. |  |
| High:<br>The Trigger function is activated when the trigger signal is DC 2~5[V]. |  |
| Low:<br>The Trigger function is activated when the trigger signal is DC 0~0.6[V].<br>**Note**: In this case, trigger port has high status electrically, so the trigger cable has to have ground(or earth) status to be activated. |  |

**Auto Switching**

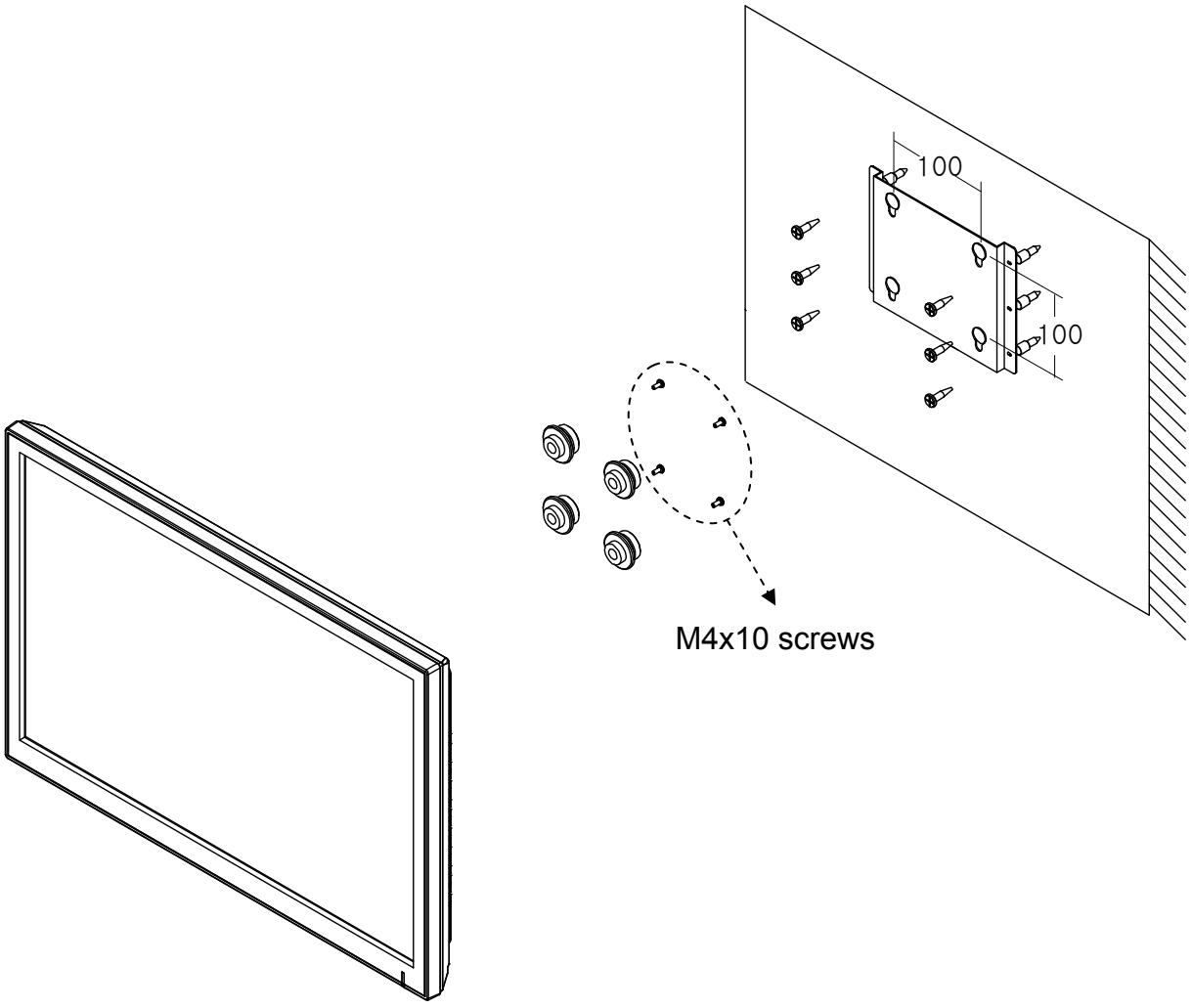



| Option | Function | Value |
|---|---|---|
| Auto Switching | Activates the Auto Switching feature. | Off or On |
| Input Enable | Opens another menu and you can select the input sources to include in the Auto Switching cycle. | AV1, AV2, RGB-PC, DVI and HDMI |
| Time | Selects the amount of time, in seconds, that the monitor displays each selected input source. | 3 ~ 100 |

# MOUNTING GUIDE

**Wall mounting (Optional)**

The LCD monitor is suitable for wall mounting by using the VESA 100 standard wall mount (not included in the delivery).




**※ Attention!**

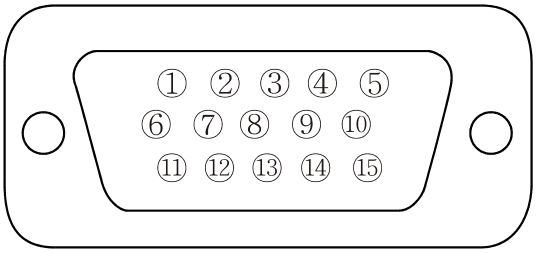
You must use four M4x10 screws to assemble this monitor and the wall mount bracket.

# D-SUB CONNECTOR PIN ASSIGNMENTS

▶ **Pin Assignments**

| | | | |
|---|---|---|---|
| Pin 1 | RED VIDEO | 9 | |
| 2 | GREEN VIDEO | 10 | SIGNAL CABLE DETECT |
| 3 | BLUE VIDEO | 11 | GROUND |
| 4 | GROUND | 12 | SDA(for DDC) |
| 5 | GROUND | 13 | H-SYNC.(or H+V SYNC.) |
| 6 | RED GROUND | 14 | V-SYNC. |
| 7 | GREEN GROUND | 15 | SCL(for DDC) |
| 8 | BLUE GROUND | | |

**D-SUB**




▶ **Accessories**

1. Power cord.
2. Power adaptor
3. User manual.
4. VGA(RGB-PC) cable.
5. Stand base & FS4x12 screws 2EA (Optional).
6. Trigger cable (Optional)
7. Stereo cable (Optional).
8. Remote controller (Optional).
9. Batteries (Optional).
10. Wall mount (Optional).

# POWER MANAGEMENT

**Power Consumption**

| Mode | 18.5” | 21.5” |
|---|---|---|
| Turned On | < 20W | < 25W |
| Turned Off | < 1W | |

**LED Indicator**

The power management feature of the monitor is comprised of two stages: Turned on(blue) and turned off(red).

| Mode | LED | Monitor Operation |
|---|---|---|
| Turned On | Blue | Normal Operation |
| Turned Off | Red | Not Operation |

# SPECIFICATIONS

| | 18.5” | 21.5” |
|---|---|---|
| **LCD Type** | 18.5″ Diagonal AM-TFT(Active-Matrix) | 21.5″ Diagonal AM-TFT(Active-Matrix) |
| | Pixel pitch(㎛): 300(H) x 300(V) | Pixel pitch(㎛): 248.25(H) x 0.248.25(V) |
| | Brightness: 250cd/㎡(Typical) | |
| | Contrast ratio: 1000:1(Typical) | |
| | Viewing angle: 170°/160°(H/V) | |
| | Response time: 5ms(Typ., on/off) | |
| **Resolution (H x V)** | 1366X768@60Hz | 1920X1080@60Hz |
| **Frequency** | Horizontal: 31~64kHz,<br>Vertical: 56~75Hz | Horizontal: 31~80kHz,<br>Vertical: 56~75Hz |
| **Input Signal** | VIDEO(2ch input 1.0Vp-p, 75Ω terminated, 1ch loop-through out) | |
| | HDMI(High Definition Multimedia Interface) | |
| | DVI D(Digital Video Interface) | |
| | VGA(RGB-PC) | |
| | PC Stereo In. | |
| | AV(composite) Sound R & L | |
| **Active Display Area (H x V)** | 409.8mm x 230.4mm | 476.64mm x 268.11mm |
| **Packing Dimensions (W x H x D)** | 590mm x 450mm x 145mm (23.23” x 17.72” x 5.71”) | |
| **Weight** | Monitor only: 2.64kg (5.82 lbs) | Monitor only: 3.35kg (7.39 lbs) |
| | Monitor with stand: 3.1kg (6.83 lbs) | Monitor with stand: 3.81kg (8.4 lbs) |
| | Gross: 4.9kg (10.8 lbs) | Gross: 5.61kg (12.37 lbs) |
| **Electrical Ratings** | AC100~240V, 50/60Hz (Auto Switching) | |

▶▶ **NOTE:** Technical specifications are subject to change without notice.

# TROUBLESHOOTING GUIDE

| TROUBLE | TROUBLESHOOTING TIP |
|---|---|
| **No image on display screen** | 1. Check that power cord of the Monitor have been connected securely into wall outlet or grounded extension cable or strip.<br>2. Power switch should be in the ON position and LED is lit.<br>3. Check that the Brightness and/or the Contrast adjustments of the Display have not been turned down to minimum levels. |
| **"NO SIGNAL" message on screen** | 1. The signal cable should be completely connected to the video card/computer.<br>2. The video card should be completely seated in its slot and the computer is switched ON. |
| **Display image is not centered, too small or too large in PC mode** | Push the down key in front side or Auto key in remote controller. |
| **Vertical or Horizontal noise is present in the picture** | Adjust Clock and Phase in the OSD. |

## WEEE Symbols

**Correct Disposal of This Product (Waste Electrical & Electronic Equipment)**
(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

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